neath the sterno-cleido. Madelung, of Rostock, successfully removed this, several smaller glands and a 5 ctm. piece of the involved common jugular. Primary union without recurrence from these secondaries. However, it had appeared again in the larynx by June, 1884. This was also removed through the mouth, but instead of using the loop as a cutting instrument, he allowed it to grasp the growth firmly and then tore it off. In two sittings the broad base was extirpated. Since he had meanwhile become impressed with the ill effect of the thermo-cautery on carcinoma it was not applied this time. Since this last operation nearly two years had elapsed with no recurrence. A cure had finally been effected in a person of 75 years, and with the preservation of a loud, clear voice. In the only previous like attempt that he could find (Oertel's) the tumor did not prove to be an epithelioma.

The seat and extent of trouble set limits to this method. Now it will, of course, be greatly facilitated by local anæsthesia.—*Arch. f. klin. Chir.*, 1886, Bd. 34, Hft. ii.

ABDOMEN.

I. On the Operative Treatment of Intestinal Invagination. By Prof. H. BRAUN (Jena). The number of these cases seen by even an experienced observer usually remains small, hence the greater reason for collective comparison. The older collections of Ashhurst (1874, 13 cases), Sands (1877, 21 cases) and Widerhofer (1870) are too small, and the newer ones of Saltzmann (1882, 29 cases), Beklewski (1883, 29 cases) and Schramm (1884, 26 or 27 cases) he considers lacking in detail. He does not essay the general subject of treating internal intussusception but only the operative side.

A case of his own is first given. It was in a boy of 3 months. The first couple of days all kinds of bloodless means were tried unsuccessfully. Laparotomy on the fifth day. In attempting to draw out the invaginated part it ruptured. Exsection with suture of the gut was then performed. Death an hour later. It proved to have been an

ileo-colic invagination—the worst form to reduce. He calls attention to the folding up of the sheath or external gut layer, in his case the neck-forming colon. This was so great that 3 or 4 ctm. on being straightened out equalled 25, and the 20 ctm. long resected part made an 80 ctm. long piece. The frequent increase and decrease of pain, the change in length and position of the tumor, its partial reduction by injections of water are all thus intelligible, the peristalsis forcing together and relaxing the folds without necessarily changing the invagination.

As soon as vomiting and alveolar obstipation appear in the course of acute or chronic invagination and ordinary means, as rectal injections, insufflation of air, etc., do not speedily relieve we are compelled to resort to operative procedures. Of course distention by fluids introduced per rectum is only admissible in the early stages before gangrene on the one hand or firm adhesions on the other have developed. The great mortality of invagination in general is an incentive to operate. Leichenstern (1873) gives the death-rate for the first six months of life as 88%, for the second as 82%, for the second to tenth year as 76%, and for adults as 63%. Widerhofer by collecting scattered reports obtained better figures, viz., 56% for second to fifth year, and 53% for sixth to tenth year; but this plan would evidently give over favorable proportions. Excluding cases where an invaginated colon has projected through the anus and been resected, two operative methods are available, laparotomy and enterotomy. Laparotomy is undertaken with the intention of freeing the invaginated part, through the wound (by pulling and pressing, by pushing the sheath upwards and forcing out the intussusception).

If this does not succeed we may stop further attempts, *i. e.*, leave the person to certain death, or we may resect the entire invagination, or we can open an artificial anus hoping thereby to preserve life until the invaginated part has been thrown off.

He has classified in all 63 operated cases, 18 of them German, and 20 before 1870.

Operation.	*Whole No.*	*Children.*	*Adults.*	*Cured.*	*Died.*
I Laparotomy for disinvagination . . .	51	30	21	11	40
1 Disinvagination successful	29	19	10	4 8	15 2
2 Disinvagination unsuccessful . . .	24	12	12	0	24
a Abdomen again closed	4	3	1	0	4
b Invagination resected	12	6	6	0 1	6 5
c Enterotomy performed	9	3	6	0	9
II Enterotomy simply	10	3	7	0	10

Successful disinvagination was thus far less able to ward off a fatal result in children than in adults. No child under six months has as yet been saved by an operation. In all cases where attempted disinvagination was not accomplished death followed despite resection (11 cases) or enterotomy (9 cases). In the one successful case of resection the gut had been freed, but a suspected neoplasm induced the operator, Czerny, to resect. Enterotomy simply, *i. e.*, without attempting reduction, was also a failure (10 cases) though some of these patients lived a few days. Three enterotomies terminating favorably he excludes as uncertain, the intussusception never coming away. From the above it follows that only disinvagination holds out any hope. That this may be successful it should be tried early, on first or second day if possible. Meteorism, peritonitis, gangrene, adhesions, etc, are then absent. Leichtenstern found that children under a year with this trouble usually died between the fourth and seventh day; when over ten years between the eleventh and fourteenth day. The reduced gut should be carefully inspected for any necrosis or tumor. Where the tumor has a broad base or malign character, resect; where pedicled and benign cut off or ligature and sew up again. In eight of his cases such complications had been found. Making an artificial anus without

previous attempt at reduction is indicated where the meteorism is so severe as to render reposition of the intestines difficult or impossible, and where the patient's general condition is so low as to forbid laparotomy.

The cases which he has gathered are first tabulated, then given *in extenso.* He appends the three other cases of enterotomy with cure, but in which the diagnosis was uncertain.—*Arch. f. klin. Chir.* Bd. 33. Hft. II.

WM. BROWNING (Brooklyn).

II. **Abdominal Section for Traumatism.** By THOMAS S. K. MORTON, M.D., (Philadelphia). This paper contains a brief but complete statistical summary and a short discussion of the proper operative methods, which do not differ materially from those now generally accepted including antiseptic precautions, and contains a report of five cases, one of gunshot wound resulting fatally, two of stab wound with recovery and one each of ruptured bladder and ruptured intestine, both fatal. (1) A powerful negro, æt. 36 years, was wounded with a 32-calibre pistol bullet, an inch and a half above and half an inch to the right of the umbilicus; no shock or any marked symptom of intestinal perforation was present, except a copious vomiting of blood just before the operation, an hour and a half after the accident. An incision was made by Dr. T. G. Morton from two inches below the ensiform cartilage to the pubes, giving exit to a large quantity of fluid and clotted blood, fæces and partly digested food. Four perforations of the stomach and a linear rent of the transverse colon just before its downward curve were found, the omentum was badly torn in a number of places and filled with very large clots of extravasated blood, and a number of ecchymoses of the small intestine and mesentery were found. The stomach and gut wounds were trimmed and sutured with chromicized catgut, Lembert's sutures, one large omental rent stitched, and a badly bruised point on the gut, which appeared as if it would slough, was turned in by Lembert's sutures; the toilet of the peritoneum was performed antiseptically and the cavity closed; there was some shock, but the patient reacted well for four hours; nevertheless after five

hours he presented all the signs of hæmorrhage and died six hours from the completion of the operation. Autopsy showed a good condition of the abdominal viscera, but revealed the fact that the ball had passed from the stomach through the diaphragm and, without affecting the lung, had lodged in the seventh intercostal space, wounding the intercostal artery, which had bled a pint and a half into the pleural sac. (2) A powerfully built man, æt. 40 years, received a stab wound $^3/_4$ inch long from a butcher's knife, 2 inches above the centre of the right Poupart's ligament. Abdominal section by a 5-inch median incision by Dr. John B. Roberts, three-quarters of an hour later, revealed six wounds. four opening the small intestine, one the colon just above the cæcum and running into the mesocolon, and one transfixing the mesentery. All were closed by Lembert's sutures and the abdomen emptied of all foreign contents and closed, the entire operation being performed under strict antiseptic precautions. In spite of an intercurrent attack of *mania a potu*, the belly healed by primary union and the patient was discharged cured on the nineteenth day. (3) A man, æt. 30 years, received a stab $1^1/_2$ inches long, 2 inches to the right of and $^3/_4$ inches above the umbilicus. Decided emphysema was present for a space of 3 inches above the wound. Median abdominal section, ten hours later, by Dr. T. G. Morton, revealed a rent of one layer of omentum and a divided and bleeding vessel just on one side of the tear, but no gut wounds. After ligaturing the artery and stitching the omental wound and the peritoneal opening of the external wound, and cleansing the abdomen, the cavity was closed; the patient was discharged cured in twenty-eight days. (4) A man. æt. 38 years, fell out of a second story window, sustaining a fracture of the neck of one femur and a rupture of the bladder; laparotomy was performed about eight hours later by Dr. Joseph M. Fox, through a 4-inch median incision over the bladder. A $2^1/_2$ inch triangular rent in the anterior portion of the fundus was closed with 15 Lembert's sutures of catgut, the bladder being held up during the stitching by two long sutures passed through the sides of the rent. The patient dying in forty-two hours, the autopsy showed localized peritonitis about the wounds and blood clots in the pelvis. (5) A man, æt. 57 years, wearing a

truss for direct inguinal hernia, by which it was not kept properly reduced, was violently kicked in the groin, the hernia being down at the time. On the following day he developed symptoms attributed either to a ruptured or a strangulated gut, and preparations were made to operate for its relief on the following morning, but the anæsthetic so depressed him and his condition within the last few hours had become so bad that the operation was abandoned and death ensued in two hours. The autopsy revealed two tears an inch long in a loop of small intestine which had evidently formed the hernia, much peritoneal congestion and inflammation, and a great quantity of fluid fæcal matter in the pelvic basin.—*Jour. Am. Med. Ass'n.* Feb. 26, 1887.

III. **Cholecystotomy and Cholecystectomy.** By JUSTUS OHAGE, M.D. (St. Paul, Minnesota). This paper reports a case of each of these operations. The case of cholecystotomy occurred in a Swedish woman, æt. 42 years, who had suffered from gall-stone colic more or less of the time for the last twenty years, with greater severity, however, for the last two weeks. Impaction of a gall-stone in the ductus communis with beginning formation of an abscess, and enlargement of the gall bladder was diagnosed. Under antiseptic precautions, a vertical incision six inches long was made at the outer border of the right rectus muscle, beginning above at the margin of the eighth rib. The field of operation was found to be greatly obscured by the inflammatory changes of the past twenty years, but finally it was possible to expose the lower anterior part of an enlarged and thickened gall bladder; fearing excessive hæmorrhage, section of the gall bladder was postponed to a supplementary operation, the lower portion of the abdominal wound being left open for about two inches and packed with iodoform cotton until adhesion had taken place between it and the gall bladder. On the eighth day thereafter, firm adhesions having formed, the gall bladder was incised and about half a pint of pus evacuated and four stones removed from the sac and one from the common duct. The patient made a good recovery in three weeks, but a fistula, opening and closing at times, remains.

The case of cholecystectomy occurred in a Swedish woman, æt. 35

years, who had suffered during the previous three years from attacks of gall stone colic, with constant trouble during the preceding three months. Cholelithiasis with enlargement of the gall bladder from obstruction of the cystic duct by a gall stone was diagnosed. Under strict antiseptic precautions, an incision eight inches long was made at the outer border of the right rectus muscle, beginning above at the margin of the eighth rib, exposing an enormously distended gall bladder; a large stone could be felt in the cystic duct. Without aspirating it, the gall bladder was then detached from the liver, the obstructing stone carefully worked back into it, the cystic duct ligatured, the bladder emptied of its fluid contents by puncture, divided close to the ligature with a Pacquelin cautery, and removed with the 153 calculi which it was found to contain. The ligature was cut short and dropped into the abdomen, the wound closed and the parts dressed antiseptically. The patient reacted well, the wound healed by first intention and she was discharged on the thirteenth day. The operation seemed to have no effect upon the digestive functions. These cases are followed by a discussion of the merits of the two operations without, however, coming to a definite conclusion.—*Med. News*, Feb. 19 and 26, 1886.

IV. The Cure of Reducible and Irreducible Hernias by Heaton's Injection Method and by Radical Operation. By ROBERT F. WEIR, M.D. (New York). This subject is discussed in a paper of considerable length, which includes a particularly full description, with favorable comments, of Macewen's operation as described in the ANNALS OF SURGERY, vol. iv, p. 89, and is concluded by the following recapitulation: (1) Small, reducible and easily controlled hernias can safely be treated with Heaton's injection, and with a reasonable prospect of success—30% of recoveries. (2) In similar hernias in children, in which the use of a truss has failed, Heaton's injection is to be recommended as a particularly successful procedure. (3) In unmanageable, painful or irreducible hernias, demanding surgical interference, and sometimes those in which Heaton has failed, the radical operation should be resorted to, with the sac tucked up or tied off as the surgeon may determine, but with a high and complete suturing

of the canal. (4) Where omentum is found in a hernia, it should be securely tied and resected. (5) The wound in the region of the external ring should be healed by granulation to afford a cicatricial barrier, as an additional factor in the cure.—*N. Y. Med. Rec.*, March 5, 1887.

V. Hernia Inguino-Properitonealis. By CHARLES W. DULLES, M.D. (Philadelphia). The author describes a case of strangulated hernia, which he believes to have been a case of properitoneal hernia, but his description is unfortunately so deficient in diagnostic points that the reader is unable to discover upon what he founds his diagnosis. While remarking the fact that very little attention has been paid to the subject in this country, he fails to define the condition so that the reader not familiar with the subject can understand it—the nearest approach to a definition being that properitoneal, while not fully descriptive, may be employed to describe hernias occupying unusual positions within the abdominal or pelvic wall in front of the peritoneum. The paper is valuable, however, for a résumé of thirty-three cases of the lesion.—*Med. News*, Jan. 22, 1887.

EXTREMITIES.

I. Operative Shortening of the Bones of the Leg in the Treatment of Injuries Complicated with Extensive Destruction of Soft Parts. By WILLIAM D. HAMILTON, M.D. (Columbus, Ohio). After discussing the abstract on this subject presented in the ANNALS OF SURGERY, vol. iii, p. 525, without giving proper credit, however, the author relates the case of a girl, æt. 10, whose left leg was almost cut in two at the junction of the lower and middle third, the lower fragment being bent at right angles to the upper one; an irregularly rectangular lacerated wound, $2^1/_2$ inches broad in the continuity of the leg and five inches long had been inflicted; in this area the soft parts were extensively destroyed to the level of the deeper posterior layer of muscles, both bones were comminuted in their whole diameter, and the periosteum was denuded from the upper tibia for three-quarters of an inch—nearly everything lying in front of a plane passing posterior to both bones being destroyed for two and a